

CLAIMS

1. A receiver of double conversion system comprising:  
an antenna tuning circuit including a tuning coil and  
a variable-capacitance diode;  
a high frequency amplification circuit for performing  
high frequency amplification for a signal outputted from said  
antenna tuning circuit;  
first and second mixing circuits for performing frequency  
conversion twice for an output of said high frequency  
amplification circuit; and  
a detecting circuit for performing detection processing  
for an output of said second mixing circuit.
2. The receiver of double conversion system according to  
claim 1, wherein said first mixing circuit converts a frequency  
of a signal outputted from said high frequency amplification  
circuit to a frequency higher than a frequency of a broadcast  
wave, and  
wherein said second mixing circuit converts a frequency  
of a signal outputted from said first mixing circuit to a  
frequency lower than the frequency of the broadcast wave.
3. The receiver of double conversion system according to  
claim 1, wherein said tuning coil included in said antenna  
tuning circuit is a bar antenna in which a conducting wire  
is wound around a magnetic core.

4. The receiver of double conversion system according to claim 1, wherein said tuning coil included in said antenna tuning circuit is a loop antenna in which a conducting wire is wound in a loop shape.

5. The receiver of double conversion system according to claim 1, further comprising:

a digital-analog converter for generating a control voltage for setting a tuning frequency applied to said variable-capacitance diode included in said antenna tuning circuit;

a local oscillator for inputting a local oscillation signal whose frequency is variable to said first mixing circuit to which an output signal of said high frequency amplification circuit is inputted; and

a control section for setting the frequency of the local oscillation signal outputted from said local oscillator, and for generating a frequency setting data required for associating the tuning frequency of said antenna tuning circuit with the frequency of the local oscillation signal, and for inputting the frequency setting data to said digital-analog converter.

6. The receiver of double conversion system according to claim 5, wherein said digital-analog converter changes the control voltage with a predetermined temperature coefficient in accordance with ambient temperature.

7. The receiver of double conversion system according to claim 6, wherein said digital-analog converter comprises a temperature coefficient setting section constituted by including elements having predetermined temperature coefficients, and

wherein a device constant of said temperature coefficient setting section as a whole is changed in accordance with ambient temperature.

8. The receiver of double conversion system according to claim 7, wherein said digital-analog converter, said high frequency amplification circuit, said first and second mixing circuits, said detecting circuit and said local oscillator are formed on a same semiconductor substrate, wherein said temperature coefficient setting section includes a plurality of resistances which are formed by a semiconductor manufacturing process and which have temperature coefficients different to each other, and

wherein a connection form of said plurality of resistances is set so that a temperature coefficient of said digital-analog converter reaches a predetermined value.

9. The receiver of double conversion system according to claim 8, wherein each of said plurality of resistances is formed by a poly-silicon on a semiconductor substrate, and wherein the temperature coefficients of the resistances are made to be different by adjusting impurity concentration and carrier types of said poly-silicon.

10. The receiver of double conversion system according to claim 8, wherein each of said plurality of resistances is formed by utilizing a p-type region or a n-type region on a semiconductor substrate, and wherein the temperature coefficients of the resistances are made to be different by adjusting impurity concentration and carrier types of said p-type region or said n-type region.

11. The receiver of double conversion system according to claim 7, wherein said digital-analog converter comprises: a current source of which current value is set in accordance with a value of said inputted frequency setting data; and said temperature coefficient setting section into which the current generated by the current source flows, and wherein a voltage across said temperature coefficient setting section is outputted as said control voltage.